

A valuable edition of "Izaak Walton's Complete Angler," 1 vol., 8vo, 1815. Atlas of Maps of the various Parishes of the County of Cumberland. Photo-lithograph of a relief model of the Colony of Victoria. From G. A. Cheeke, Esq.

"Science," vol. II., Nos. 32 to 35, September 14th to October 5th, 1883. Also duplicate copies of vol I., Nos. 2 to 13.

"On the naturalised weeds, and other plants in South Australia" and "On the Urari, the deadly arrow poison of the Macusis, an Indian Tribe in British Guiana." By Dr. Richard Schomburgk, F.R.S., &c. From John Brazier, Esq., C.M.Z.S.

"Proceedings of the Linnean Society of New South Wales." Vol. I. Parts 1 and 4. Vol. III. Parts 1 and 4. Vol. IV. Parts 1, 2, and 3. Vol. v. Parts 2, 3, and 4. Vol. VI. Parts 1, 2, and 3. From Mrs. Onslow.

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PAPERS READ.

FISHES FROM SOUTH SEA ISLANDS.

BY CHARLES W. DE VIS, M.A.

To Government agents and captains employed in hiring hands for the plantations, I am indebted for several opportunities of examining fish from the prolific waters around the Islands from which the labour supply is derived. In the collections thus incidentally made, undescribed species have so often appeared that I have no doubt a systematic research would be grandly rewarded. The following are the species which now seek admittance into our lists :—

SERRANUS PERGUTTATUS.

D. 9/14. A. 3/9. L. Lat, plus 100.

Height  $3\frac{1}{2}$  in the length, head the same. Snout,  $\frac{1}{3}$ ; Orbit, and Interorbit  $6\frac{1}{2}$  in the head.

Caudal rounded. Preopercle entire, emarginate over angle. Interopercle feebly serrated. Inter-maxillary reaching far beyond the orbit. Pectoral reaching the vent.

Light brown; head, body and vertical fins covered with blue black-edged spots.

Loc. New Hebrides. Collector, Mr. Cheeke.

SERRANUS CRUENTUS.

D. 11/15. A.  $\frac{3}{8}$ .

Height  $3\frac{1}{2}$ ; head,  $3\frac{1}{5}$  in the length. Orbit, and snout, 3; inter-orbit  $7\frac{1}{2}$  in the head.

Fourth and fifth dorsal spine longest,  $\frac{1}{3}$  of the height. Pectoral reaching vent. Inter-maxillary reaching beyond the eye. Upper limb of inter-operculum finely serrated, with strong teeth at the angle.

Light red with six half cross bands, the first over the vertex to the pre-operculum. Fins bright red, upper fore corner of webs of spinous dorsal black, edge of pectoral yellow.

Length,  $8\frac{1}{4}$  inches. Loc. New Britain.

MESOPRION FLAVIROSEA.

D. 11/12. A.  $\frac{3}{7}$ . L. Lat. 52. Tr. 10/16.

Height  $3\frac{1}{2}$ , head  $3\frac{1}{3}$  in the length. Orbit  $2\frac{1}{2}$ , snout 4 in the head; interorbit,  $\frac{1}{2}$  of orbit. Canines  $\frac{2-2}{0-0}$ .

Pre-operculum strongly serrated at the angle, scarcely emarginate on the one side, deeply on the other. Pectoral reaching origin of anal, caudal emarginate.

Light brown washed with yellow posteriorly. Fins, except spinous dorsal, yellow. A faint spot over lateral line beneath origin of soft dorsal, another fainter on end of caudal peduncle above, middle rays of caudal dark.

Loc. New Britain.

In the young the spots on the body are rather more distinct.

TETRAROGE VESTITUS.

D. 16/9, A.  $\frac{3}{6}$ .

No barbels. Cleft of mouth reaching centre of eye. Jaws equal. Spinous dorsal commencing on the nape. Pectoral hardly reaching anal. Scales very distinct.

Olive brown, dark speckled, the markings tending to form four bands across the back.

Loc. South Seas. Collector, Captain Brown.

ACANTHURUS ZEBRA.

D.  $9\frac{1}{28}$ . A.  $3\frac{1}{20}$ . V.  $4\frac{1}{2}$ .

Height  $\frac{1}{2}$ , head  $\frac{1}{3}$  of the length, s.c. Preorbital  $2\frac{1}{4}$  in the head.

Caudal spine moderate, caudal emarginate. Half of outer ventral ray undeveloped.

Five vertical bands, first through the eye, second curved backwards on the abdomen. A black spot on the end of the caudal peduncle above. Upper part of head dark grey.

Loc. Duke of York's Group.

RHYNCHICHTHYS NOVÆ-BRITANNIÆ.

D.  $10\frac{1}{11}$ . A.  $4\frac{1}{7}$ . L. Lat. 43. L. Tr.  $4\frac{1}{7}$ . V.  $1\frac{1}{7}$ .

Height  $3\frac{3}{4}$  in the length s.c. ( $4\frac{1}{2}$  c.c.), head 3 in the length s.c. Orbit,  $2\frac{1}{2}$ ; snout,  $3\frac{1}{2}$ ; inter-orbit,  $4\frac{1}{4}$  in the head.

No vomerine teeth, snout pointed. Third dorsal spine longest, more than  $\frac{1}{2}$  of the height. Third anal spine,  $5\frac{2}{3}$  in the total length, or  $\frac{4}{5}$  of the head. Inter-maxillary not reaching the middle of the eye. Operculum with two spines, the upper largest with two small ones above it. Inter and sub-opercles entire. Pre-opercular spine short. Caudal lobes equal.

Silvery with a strong red blush. Longitudinal rows of dark spots on the body, a double line of round spots from the angle of the operculum to the tail. Four oblique lines of spots on the pre-operculum. Fins immaculate. Inner half of caudal lobes white.

Length 6 inches. Loc. New Britain.

HARPAGE, Fam. BERYCIDÆ.

Muzzle short, gape rather oblique, jaws equal. Teeth viliform on jaws, vomer, palatines and tongue. Five branchiostegals, opercles serrated. Operculum distinctly and pre-operculum scarcely

spiniferous, scales etenoid, larger and more distinct anteriorly than posteriorly. Dorsals slightly connected. Ventrals contiguous, with 7 rays, the outer simple. Caudal forked, anal with 3 spines. Spinous dorsal sheathed.

#### HARPAGE ROSEA.

D. 12 1/14. A. 3/11. L. Lat. 42. L. Tr. 5/10. P. 1/16. V. 1/7.

Height  $2\frac{3}{4}$ ; head  $3\frac{1}{3}$  in the total length. Orbit  $3\frac{1}{2}$ , snout  $4\frac{1}{2}$ , interorbit  $5\frac{3}{4}$  in the head.

Moderately elevated, thick. Profile regular, more convex above. Dorsal, anal and lobes of caudal, obtusely pointed. Inter-maxillary reaching much beyond orbit, very deep posteriorly and overhanging the mandible. Caudal small. Profile of spinous dorsal regularly arched, 4th to 6th spines longest; lower than the soft. Scales spinose on the edge, the anterior ones with 6—7 rather long teeth. Opercular spine distinct from the serrations, but short. A short bifid spine on the angle of the pre-operculum. Second anal spine much longer and stronger than the third. Lateral line almost obsolete on the caudal peduncle. Cheek and operculum sharply granular. Interopercle scaly.

Ruddy brown stained with red. Fins pale.

Length, 5 inches. Loc. S. S. Islands Collector, Captain Eastlake.

#### GOBIODON AXILLARIS.

D. 6 1/9. A. 1/7.

Height  $3\frac{1}{4}$  in the length, head considerably higher than long, profile parabolic, no scales, lower canines sharp, right one bifid in both of two specimens.

Pale greenish—a red brown line below the base of the dorsals. Base of fins yellow, edges broadly brown. Four brown vertical lines on the head, the first from the eye; a blackish red spot above the axil of the pectoral.

Loc. Bank's Group. Collector, Mr. C. F. Browne.

## GOBIODON FLAVIDUS.

D. 6  $\frac{1}{9}$ . A.  $\frac{1}{8}$ .

Height  $4\frac{1}{2}$  in the length, head as long as high, profile vertical with a slightly projecting snout. No scales. Lower canines rather large.

Pale greenish yellow. An orange line from over orbit along edge of operculum and on base of pectoral. An orange band down middle of body. Two short blue lines on cheek opposite angle of mouth, sometimes absent

Loc. Bank's Group. Mr. C. F. Browne.

## GOBIODON LINEATUS.

D. 6  $\frac{1}{10}$ . A.  $\frac{1}{9}$ .

Height  $\frac{1}{2}$  nearly of the length, profile parabolic with a slightly protruding muzzle; no scales; habit elongate; canine teeth.

Smoky brown, anal and caudal brownish black. Bases of pectoral and caudal pale yellow, traversed by a slender dark-edged blue line. All the head and fore part of the body with similar undulatory vertical lines, which become very obscure posteriorly.

Loc. Bank's Group. Collector, Mr. C. F. Browne.

## GOBIODON INORNATUS.

D. 6  $\frac{1}{11}$ . A.  $\frac{1}{9}$ .

Height  $4\frac{1}{3}$  in the length, head much longer than high, profile parabolic with a rather projecting snout, no scales, lower canines moderate.

Flesh-yellow. Chin, base of pectoral and of caudal yellow. No markings save an obscure purplish streak beneath the base of the dorsals. Spinous dorsal black-edged.

Loc. Bank's Group. Collector, Mr. C. F. Browne.

## GOBIOSOMA PUNCTULARUM.

D.  $\frac{5}{25}$ . A. 24.

Height  $10\frac{1}{2}$ , head  $4\frac{3}{4}$  in the length, third dorsal filament 4 in the same.

Yellowish, minutely dotted with brown. Distant brown spots on the upper part of the head and neck and on soft dorsal; caudal with three faint crossbars.

A shorter fish than 9 *guttulatum* Macl., with a longer head and a much shorter and more delicate filament. The body is without traces of bands. *Guttulatum* is minutely freckled with white, and the bars on the tail are frequently multiplied and broken up into spots—in the present fish they are constantly linear and faint, its mandibular cirrhi also are much smaller.

Loc. South Sea Islands probably.

SALARIAS GRISEUS.

D. 30. A. 20.

Height 5, head  $5\frac{3}{4}$  in the length.

Lower canine moderate. A bifid tentacle on nostril and orbit. A pair of short fringed tentacles on nape. Anterior profile oblique. Dorsal rising on vertical of upper opercular angle, continuous with caudal, violet grey. Pectoral brown spotted; ventral brown tinged.

Loc. South Sea Islands.

SALARIAS ÆQUIPINNIS. Gunth.

A specimen which may be of this species has a dorsal formula 12/19, and a pointed caudal. It is dark grey with pale spots arranged anteriorly in short vertical bands. The anal rays are black, but there is no marginal black band. Possibly it is distinct, the number of dorsal spines being reduced beyond the usual limits of variation.

AMPHIPRION ARION.

D. 10/17. A. 2/13 L. Lat. 55. L. Tr. 5/20.

Height  $2\frac{1}{3}$  ( $1\frac{1}{5}$  s.c.), head  $3\frac{3}{4}$  in the total length. Snout and orbit,  $3\frac{3}{4}$ ; interorbit  $2\frac{1}{2}$  in the head.

Muzzle very obtuse, rounded, jaws equal. Pre-operculum feebly denticulated. Opercle radiately toothed, in two main lobes.

Brownish yellow. A narrowly dark-edged broadly elliptical (slug-shaped) pearly band from the base of the anterior dorsal to the chest. A large ovate black-brown blotch covers the hinder half of the trunk from the distal third of the pectoral to the caudal peduncle, but does not reach the anal. Vertical fins yellow. Ventrals and anal spines black.

Length,  $3\frac{1}{2}$ . Loc. South Seas. Collector, Mr. Cheeke.

POMACENTRUS ONYX.

D. 12/11. A. 2/12. L. Lat. 26. L. Tr. 2/9.

Height  $\frac{2}{3}$  of the length, s.c. ; head  $\frac{1}{3}$  barely.

Pre-orbital finely serrated, and  $\frac{1}{2}$  of orbit, pre-opercle finely serrated on posterior, more strongly on lower limb. Profile very convex above, less so beneath.

Four black bands, first over the eye to the chin and chest. Second from anterior half of spinous dorsal to ventral. Third from posterior half of soft dorsal to anal. Fourth forming a large ovate patch covering the end of the caudal. Ventrals black.

Loc. South Seas. Collector, Captain Browne.

POMACENTRUS NOTATUS.

D. 13/12. A. 2/13. L. Lat. 25. L. Tr. 2/7.

Lobes of caudal prolonged, of dorsal and anal moderately so. Operculum with a spine.

Brownish grey with a blue tinge. Pectoral and tip of soft dorsal yellow. Tip of anal and caudal lobes white. Scales of head and belly with short longitudinal bars of blue ; of back and flanks with vertical streaks, many of which are curved, and have a process directed backwards from their middle.

Length, 3 inches. Loc. New Britain.

POMACENTRUS NIOMATUS.

D. 13/13. A. 2/13. L. Lat. 26.

Height  $2\frac{1}{3}$ , head  $3\frac{4}{5}$  in the length. Operculum entire, pre-orbital narrow, almost entire pre-operculum strongly serrated.

Uniform pale brown. A minute black super-axillary spot.  
Locality, probably South Sea Islands.

POMACENTRUS TRIFASCIATUS.

D. 12/11. A. 2/4. L. Lat. 24.

Height  $2\frac{1}{8}$ , head 4 in the length; orbit and post-orbit  $2\frac{3}{4}$ , snout  $3\frac{1}{3}$ , inter-orbit  $2\frac{1}{2}$  in the head.

Fourth and fifth dorsal spines longest,  $\frac{1}{2}$  of the head, posterior rays rather prolonged, pointed; soft dorsal higher than long; second anal spine strong, shorter than soft dorsal. Lilac brown, with three transverse bands—first, from nape and occiput to chin leaving inter-orbit and muzzle clear; second, across middle of body; third, across its hinder part (including soft dorsal and anal) and caudal peduncle. Point of soft dorsal white.

Locality, probably South Sea Islands.

GLYPIDODON PALLIDUS.

D. 12/11. A. 2/11. L. Lat. 26.

Height,  $2\frac{1}{2}$  in the length; Preorbital 3 in the orbit; snout, shorter than the eye.

Teeth uniserial, long; caudal emarginate, lobes rounded. Pale yellowish blue; a blue line from base of dorsal to muzzle on each side. Two curved lines beneath the eye; small oval spots or short streaks above lateral line, and extending upon the webs of the dorsal; streaks on a few scales below the lateral line.

Long. 2 inches. Locality, Bank's Group, Collector, Mr. C. F. Browne.

GLYPIDODON AMABILIS.

D. 13/11. A. 2/11. L. Lat. 27. L. Tr.  $1\frac{1}{2}/8$ .

Height  $2\frac{1}{5}$  in the length, snout equals eye. Preorbital 3 in the head.

Violet brown, with three pale transverse bars—one on the operculum spreading behind the base of the pectoral; second, from base of sixth dorsal spine to the vent; third, broad across



caudal peduncle. Pale spots on the operculum, and forming two curved lines below the orbit and with an angular streak on its posterior third, and a few small white spots anteriorly; spinous dorsal dark edged, soft, with a blackish base gradually rising higher posteriorly; caudal largely white tipped, dark between the lobes.

Locality, South Sea Islands. Collector, Captain Eastlake.

GLYPHYDODON UNIOCELLATUS. Quoy and Gainard.

Dr. Gunther regards *G. assimilis* as quite distinct from *uniocellatus*, and judging from his diagnosis of it, with good reason. But a fish occurs in Captain Eastlake's collection, which appears to be a link between the two, and is therefore worthy of notice. It is blue with a darker blue spot on the base of each scale. In *G. assimilis*, the lower part of the head is brown (in life yellow.) In the present fish this colour is continued with a nearly straight upper limit to the posterior third of the anal and is traversed longitudinally by an irregularly undulating blue streak. The black dorsal spot is on the base of the posterior rays, and there are traces of blue longitudinal lines on the anal. On the whole however, its distinctive characters are not sufficient to separate it from either of the two species referred to. Two specimens alike.

NESIOTES n. g. Fam. Labridæ.

Anterior canines  $\frac{4}{4}$ , posterior none; laterals confluent, with distinct serration. Lateral line resumed. Cheeks and opercles scaly. Base of dorsal not scaly. Twelve dorsal spines.

Differs from *Decodon* in the absence of a posterior canine, and from *Semi-rossyphus* in the serrations of the dental ridge.

N. PURPURASCENS.

D. 12/13. A. 3/14. L. Lat. 37.

Height  $3\frac{1}{2}$ , head 4 in the total length; orbit  $\frac{3}{4}$ , snout 4 in the length of the head; interorbit  $\frac{1}{2}$  of orbit.

Scales on cheeks in 4 series, imbricate; on operculum few, large, not imbricate. Profile convex above, much less so beneath. Pre-orbital low. Caudal bluntly pointed. Dorsal and anal acuminate, last rays rather prolonged.

Purplish brown. Base of pectoral and of caudal pale, in the latter space a vertical ellipse of the ground colour. Scales of body with conspicuous dark edges and obscure pale spots tending to form longitudinal lines.

Length,  $2\frac{1}{2}$  inches. Locality, South Seas. Collector, Captain Eastlake.

*EXOCÆTUS LONGIBARBA.*

D. 14. A. 13.

From the chin a long barbel  $\frac{4}{5}$  of the length of the head. Head longer than the height. Snout  $\frac{2}{3}$  of the eye.

Pectoral reaching beyond the base of the caudal. Insertion of the ventral nearer to the snout than to the caudal. Dorsal low not reaching the caudal.

Pectoral black with the basal half paler. Two dark grey bars across the posterior part of the trunk not meeting below. Base of caudal black.

Loc. New Britain.

*ARIUS ARMIGER.*

D. 1/7. A. 22. P. 1/8.

Teeth in two bipartite divisions, forming a curved band. Vomerines sub-granular; in separated groups, which are more than twice as long as broad and elliptical. Palatines in granular groups contiguous to vomerines, elongate, ovate. Cephalic shield as broad as long with the sides emarginate; fore end angular, hind end truncate. Base bone of dorsal moderate, chevron shaped.

Height,  $6\frac{1}{2}$ , head  $4\frac{2}{3}$  in the length.

Dorsal spine longer than the head; pectoral  $\frac{3}{4}$  of dorsal; ventral  $\frac{4}{5}$  of pectoral. Outer maxillary barbel reaches beyond the pectoral spine; mandibulary nearly to its tip. Adipose fin  $\frac{2}{3}$  of dorsal. Eyes about  $\frac{1}{2}$  of snout. Upper lobe of caudal longest. Dorsal spine in front, granulate at base, sub-serrated above; behind strongly toothed. Pectoral spine smooth before, strongly toothed behind.

Paired fins white at base, black for the rest.

Loc. New Britain. Length, 8 inches.

## OPHICHTHYS COBRA.

Head  $\frac{1}{10}$  of trunk; snout  $\frac{1}{5}$  of head; pectoral  $6\frac{1}{2}$  in head. Habit round, firm. A line of pores from interorbit to snout on each side. Head depressed, attenuated. Gape reaching beyond level of orbit. Dorsal and anal very low, membranous, immersed each in a groove. Dorsal rising a little behind the gill orifice, which is short and immediately in front of the pectoral.

Brown with about 27 black half-bands across the back.

Loc. South Seas. Collected by Captain Browne.

## OPHICHTHYS NAJA.

Head one-eleventh nearly of the trunk; tail one-fourth longer than the head and trunk together. No pectorals. Teeth molar, uniserial on jaws and vomer. Dorsal and anal higher than the grooves in which they are seated, with distinct rays.

Yellow, with twenty-seven complete brown rings which are narrower than the interspaces: some of the interspaces with a large oval spot.

Loc. South Sea Islands. Collector, Mr. C. F. Browne.

The teeth are neither pointed, granular, nor conical, but flat tubercular molars: the fish therefore does not fairly enter either of Dr. Gunther's subdivisions of the genus; yet it has nothing further to justify its separation under another generic term.

It reproduces closely the style of colouring and general facies of the fish described as *Herpetichthys cobra* (Proc. Linn. Soc. N. S. Wales, 1883, p. ) and finding that the statement that maxillary teeth are wanting in that species was too hasty, I am now of opinion that *Herpetichthys* should sink into a synonym.

## TRACHYCEPHALUS N.G. Fam. SCLERODERMI.

Body, more or less, naked. Teeth villiform, on jaws only. Mouth oblique, gape very wide. Pre-operculum armed. Branchiostegals 4. Gills 4, no slit behind the fourth. Nopseudobranchiæ. Pectorals broad, fleshy, on a strong carpal. Lateral line continuous. Dorsal and anal rays few. Ventrals abdominal, rudimentary.

## TRACHYCEPHALUS BANKIENSIS.

D. 7/14. A. 2/10.

Height  $2\frac{1}{3}$ , head  $3\frac{2}{3}$  in the length, suborbital  $\frac{1}{2}$  nearly of the head.

Head above nearly to base of dorsal, armed with short columnar spines, bearing spinelets on their tips much as in *Monacanthus trachylepis*. Rest of head and body naked, skin finely wrinkled. Gape very oblique. Lower jaw thick and prominent. Profile of head very obtuse. Ventrals as two minute spines.

Length 1— $1\frac{1}{2}$  inches. Locality, Banks Group. Collector, Mr. C. F. Browne.

## TETRODON INSULARUM.

Nasal process single, open fore and aft. Lips, cheek, chin and caudal peduncle from before the dorsal fin, naked. Operculum and axillary band slightly, and the rest distinctly spinose. Osseous interorbit shorter than snout. Eye considerably nearer tip of snout than to gill orifice. Interorbit rather convex. Blue black above, with irregular dark spots, nearly obliterating a dingy yellow ground colour, and descending on the flanks as broad, on the cheeks as narrower, vertical streaks. Below white.

Loc. Api. Collector, Mr. C. F. Browne.

## TETRODON LÆVIS.

Nasal tentacle single, open fore and aft. Osseous interorbit broader than snout. Eye further from snout than from gill orifice. Interorbit convex. Back broad, rather depressed.

Naked, smooth, except on the abdomen, which is covered with spine-pores.

Brownish black above, white below. An indistinct broad inter-orbital band, and one crossing the back behind the pectoral. A broad black oval patch descending from the base of the dorsal and another similar blotch on the root of the caudal.

Length, 5 inches. Loc, South Seas. Collector, Mr. C. F. Browne.

The following localities have afforded known fish :—

*New Britain*—*Pterois volitans*, L. *Therapon trivittatus*, Blk.  
*Muræna nebulosa*, Bl. *PlatyGLOSSUS scapularis*, Benn. *Saurus varius* Lacep. *Exocætus evolans* L. *Genyoroge melanura*, Rup,

*New Ireland*—*Tetrodon nigropunctatus*, Blk. *Serranus lauti*.  
 Forsk. *Ostracion cornutus*, L.

*Api*—*Chrysophrys Australis*, Gunth. *Chætodon xanthurus*,  
 Blk. *Chætodon vittatus*, Blk. *Muræna Brummeri*, Blk.

*Duke of York's Group*—*Balistes verrucosus*, L.



#### SOME RESULTS OF TRAWL FISHING OUTSIDE PORT JACKSON.

BY WILLIAM MACLEAY, F.L.S., &c.

Whatever adds to our knowledge of the natural productions of the country, either on land or water, must be a matter of general interest. I need scarcely then, I think, offer any apology for the frequency with which I trespass on the time of this Society by laying before it short notices of new Fishes found in Port Jackson and its neighbourhood. I am aware that to the Ichthyologist these isolated descriptions of species, are, to say the least of it, troublesome, and that it would be far better and more convenient for the student, if I were to reserve these descriptions until the publication of a Supplement to my Catalogue of the Fishes of Australia, a work which I have now in hand. But I have an object to serve of a more utilitarian character, than the mere identification and nomenclature of species; I am desirous of seizing every possible opportunity of forcing upon the notice of the public the great value of our Fisheries, or rather of what might be their great value, were we disposed to develop them.

I have often said, and I repeat—and it cannot be repeated too often—we have in our seas a wonderful variety of the most excellent fishes, not surpassed in numbers, excellence and variety in any country in the world. We have herrings of various kinds visiting our shores annually in countless shoals, we have similar